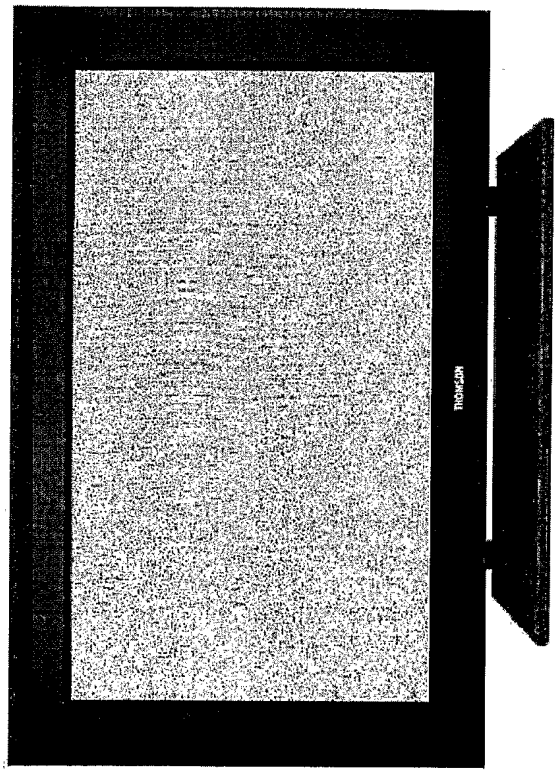

Fig. 1

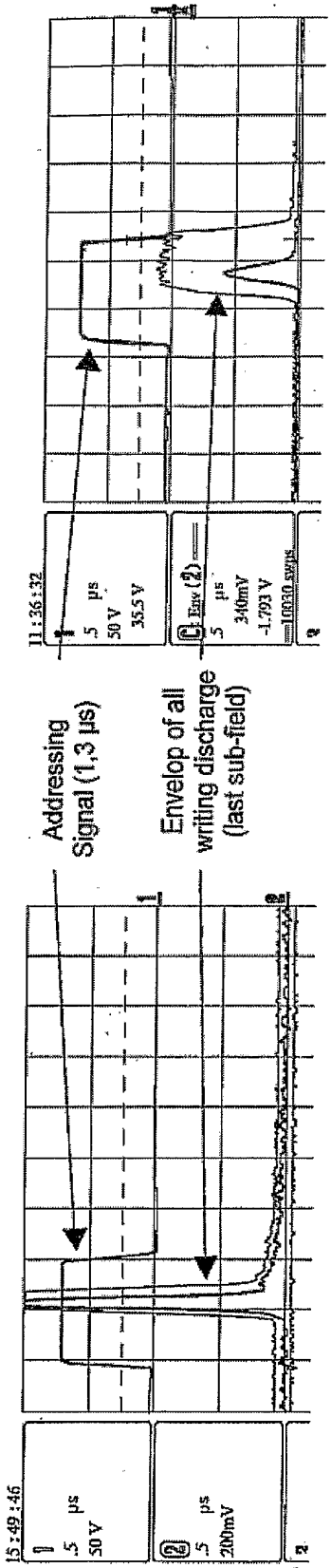
Addressing
Signal (1,3 µs)
Envelop of all
writing discharge
(last sub-field)

Fig. 2

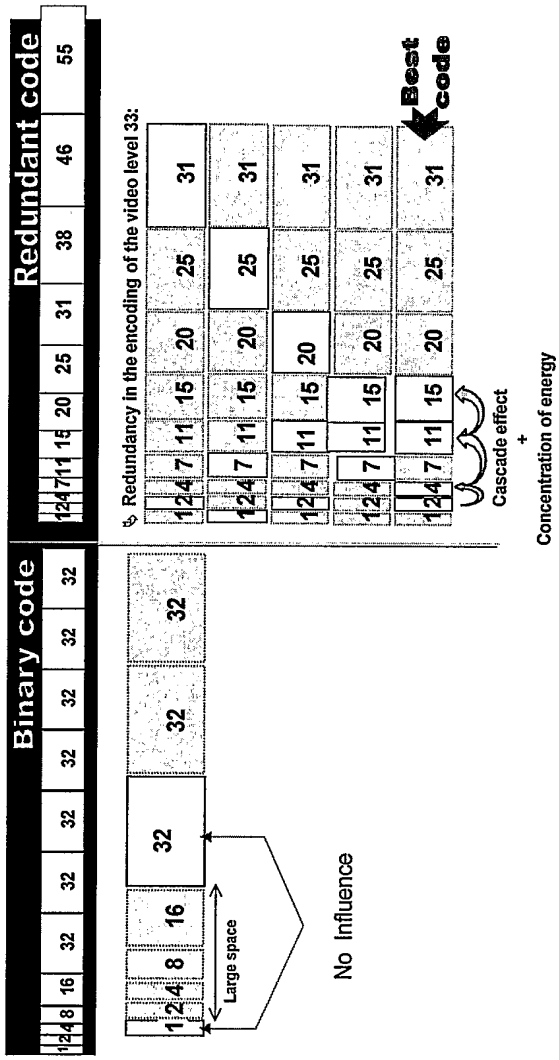
Binary code
Redundant code
Redundancy in the encoding of the video level 33:
Large space
No Influence
Cascade effect
+
Concentration of energy
Best code

Fig. 3

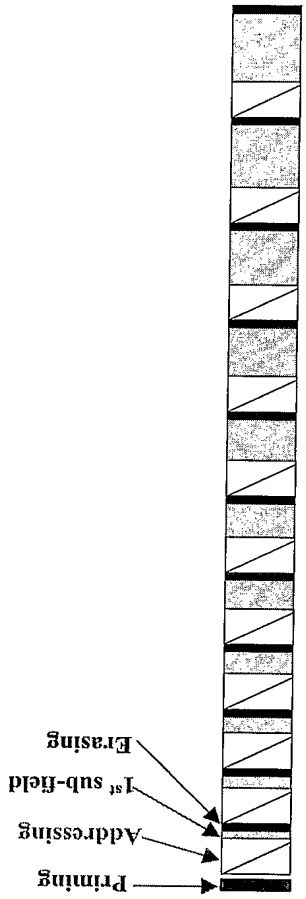

Fig. 4

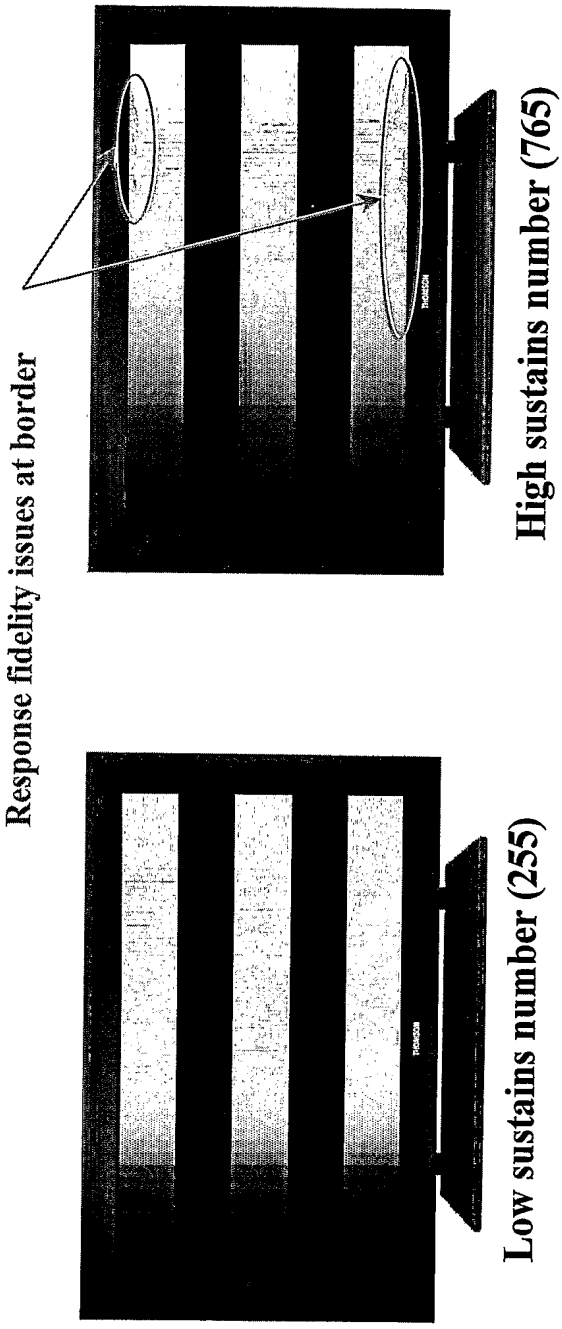
Response fidelity issues at border
High sustains number (765)
Low sustains number (255)

Fig. 5

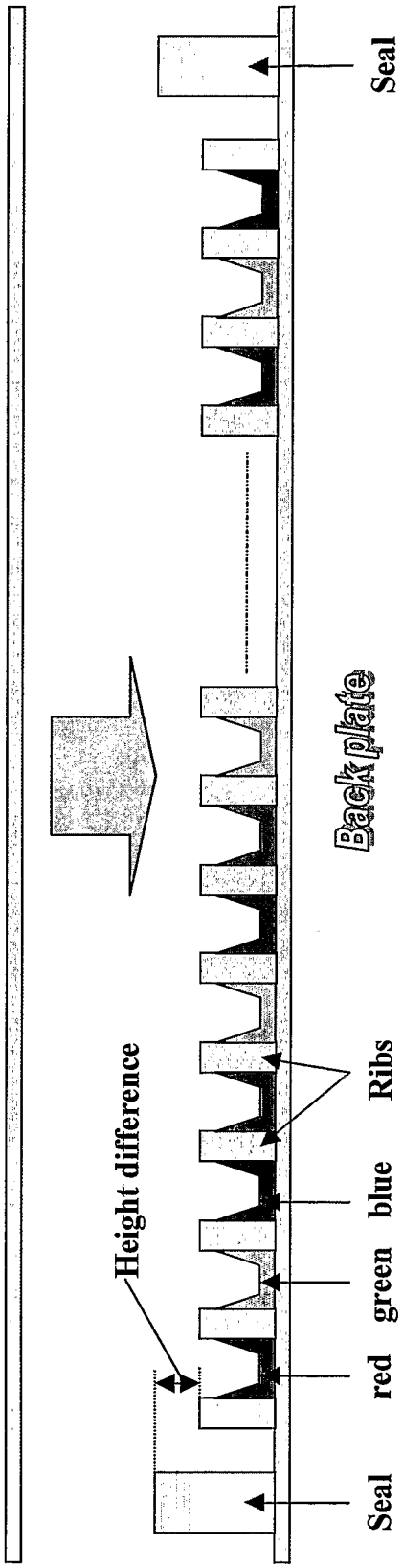
Front plate
Seal
Back plate
Height difference
Ribs
blue
green
red
Seal
Phosphors

Fig. 6

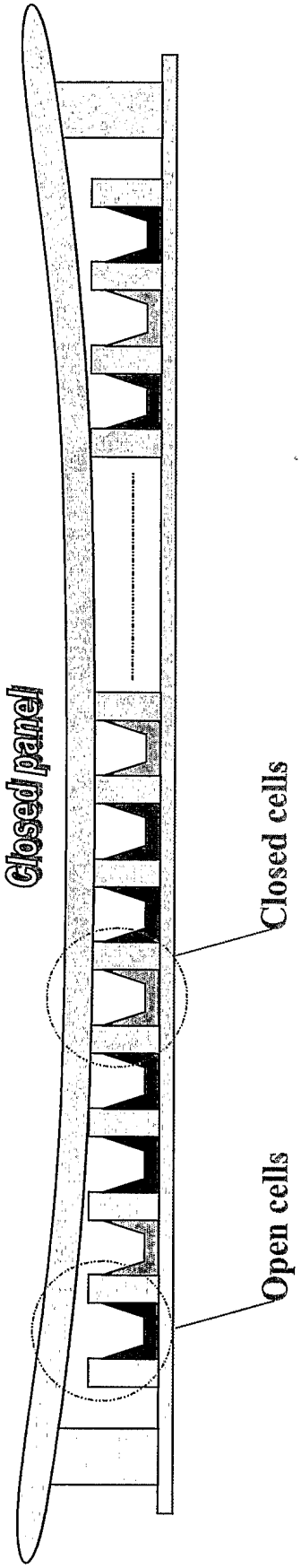
Closed panel
Closed cells
Open cells

Fig. 7

170	170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176
170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176	176
170	170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176
170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176	176
170	170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176
170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176	176
170	170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176
170	170	170	170	170	170	176	170	176	170	176	176	176	176	176	176	176

Cells with problems

Fig.8

170 ⇨ 111111101110

Differences

176 ⇨ 111111011110

Fig. 9

173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174	174
173	173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174
173	173	173	173	173	173	174	173	174	173	174	173	174	174	174	174	174	174
173	173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174
173	173	173	173	173	173	174	173	174	173	174	173	174	174	174	174	174	174
173	173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174
173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174	174
173	173	173	173	173	173	173	174	173	174	173	174	174	174	174	174	174	174

Fig. 10

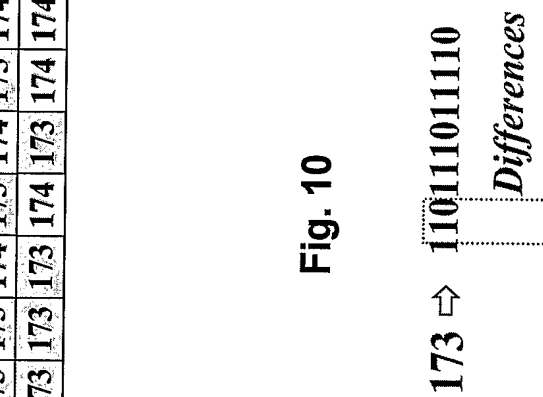

Fig. 11

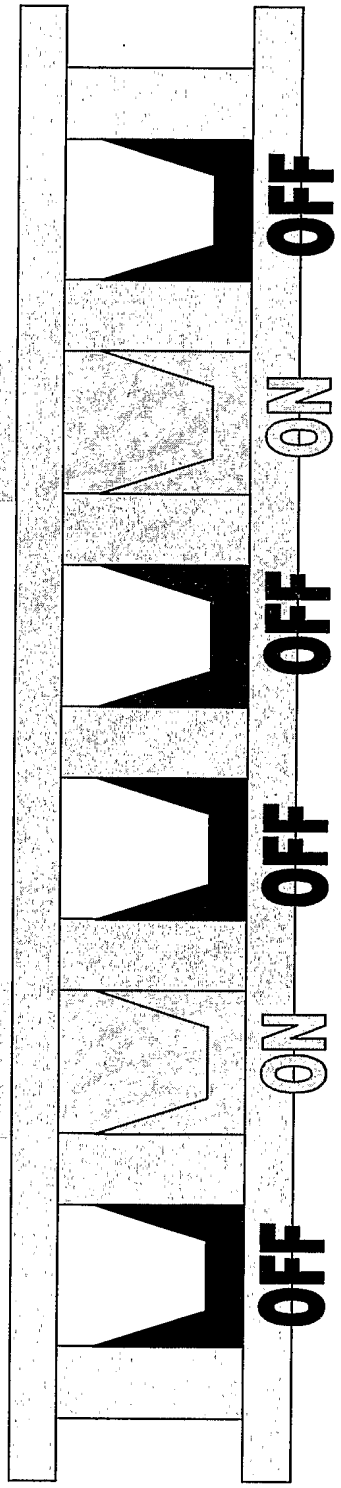

Fig. 12

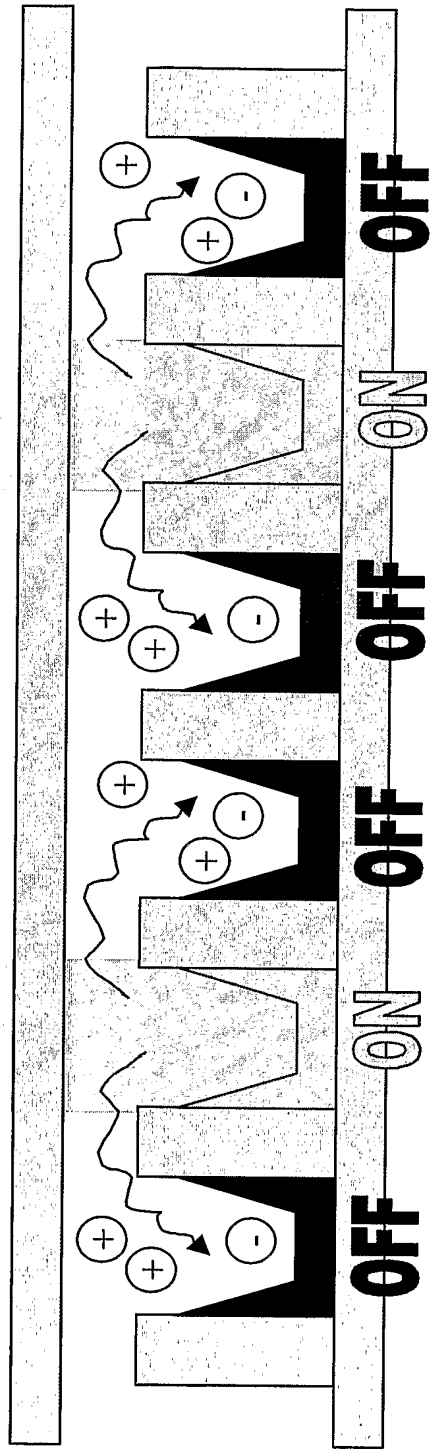

Fig. 13

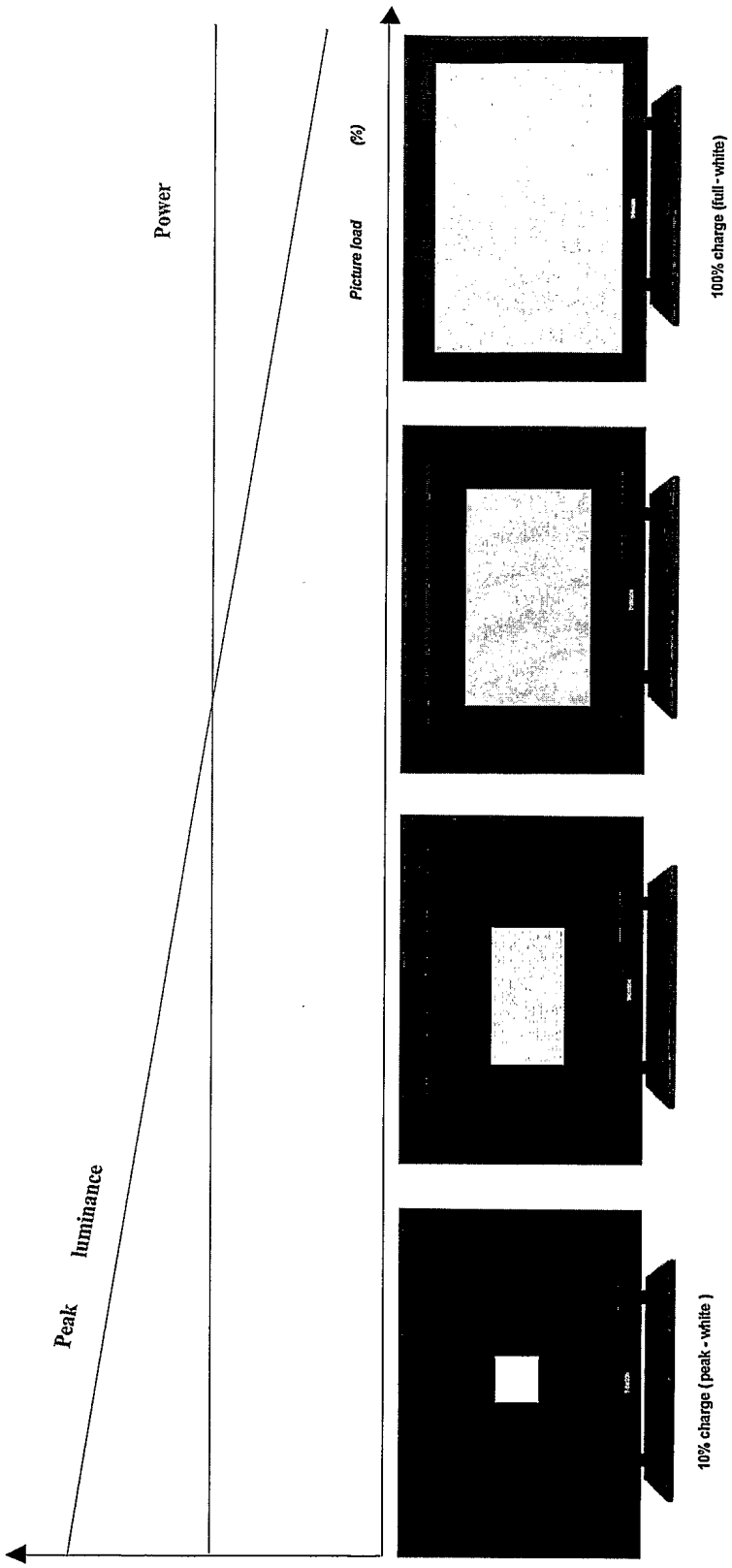
Power
Picture load (%)
Peak luminance
10% charge (peak - white)
100% charge (full - white)

Fig. 14

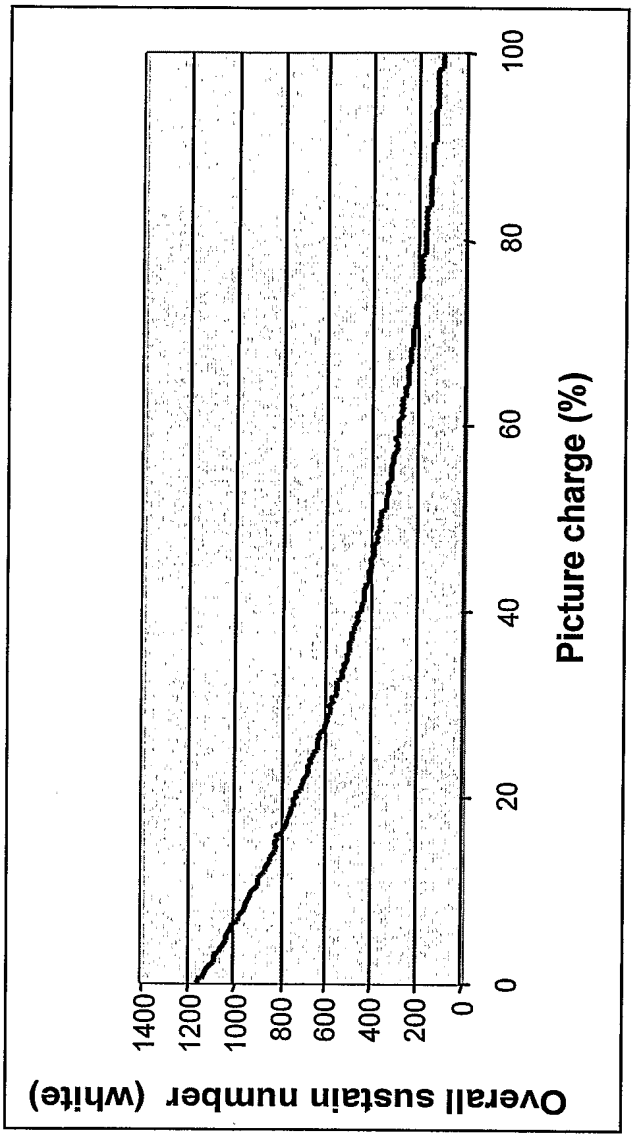
Overall sustain number (white)
1400
1200
1000
800
600
400
200
0
0
20
40
60
80
100
Picture charge (%)

Fig. 15

Weight	1	2	3	5	8	13	19	25	32	40	49	58	Σ=255
APL	*Number of sustain periods per sub-field*												Total
0%	5	11	16	27	44	71	104	136	175	218	267	316	Σ=1391
20%	3	7	10	17	27	45	65	86	110	137	168	199	Σ=875
40%	2	4	6	11	17	28	41	53	68	85	105	124	Σ=544
60%	1	3	4	7	11	17	25	33	43	53	66	78	Σ=341
80%	1	2	2	4	7	11	16	21	26	33	40	48	Σ=210
100%	1	1	1	2	4	6	9	12	16	20	24	28	Σ=124

Fig. 16

Weight	1	2	3	5	8	13	19	25	32	40	49	58	Σ=255
APL	*Number of sustain periods per sub-field*												Total
0%	5	11	16	27	44	71	104	136	175	218	267	316	Σ=1391
20%	3	7	10	17	27	45	65	86	110	137	168	199	Σ=875
40%	2	4	6	11	17	28	41	53	68	85	105	124	Σ=544
60%	1	3	4	7	11	17	25	33	43	53	66	78	Σ=341
80%	1	2	2	4	7	11	16	21	26	33	40	48	Σ=210
100%	1	1	1	2	4	6	9	12	16	20	24	28	Σ=124

Fig. 17

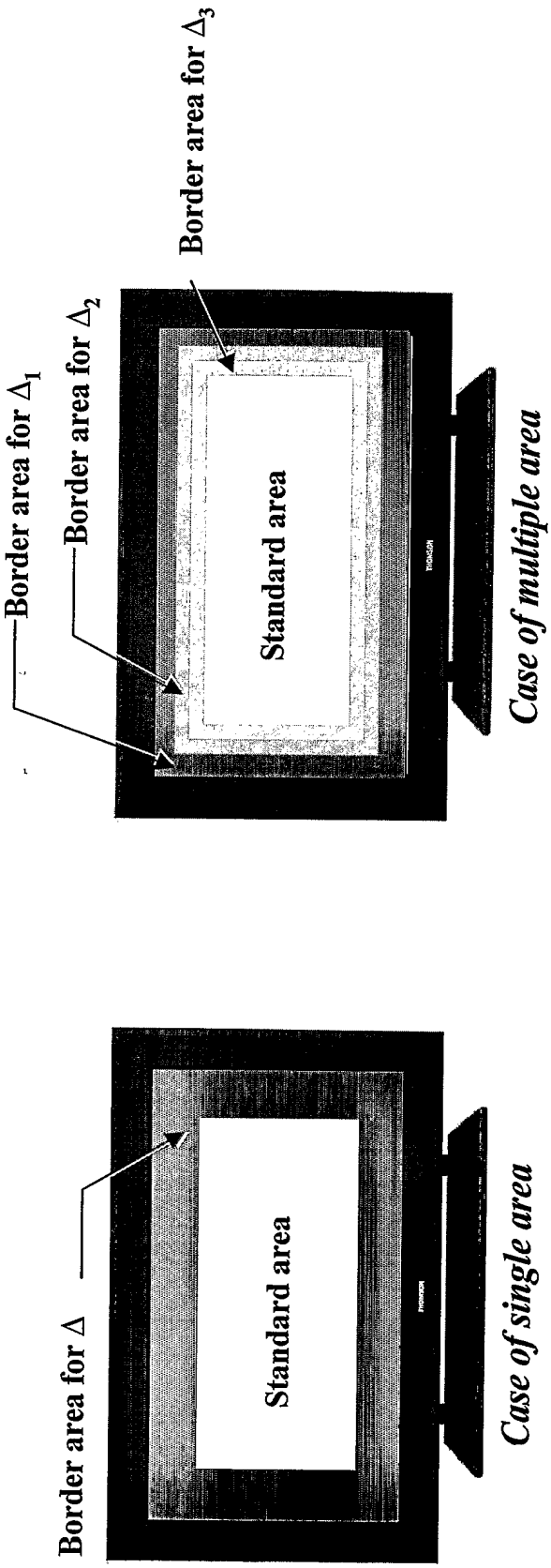
Border area for Δ_3
Border area for Δ_2
Border area for Δ_1
Standard area
Case of multiple area
Border area for Δ
Standard area
Case of single area

Fig. 18

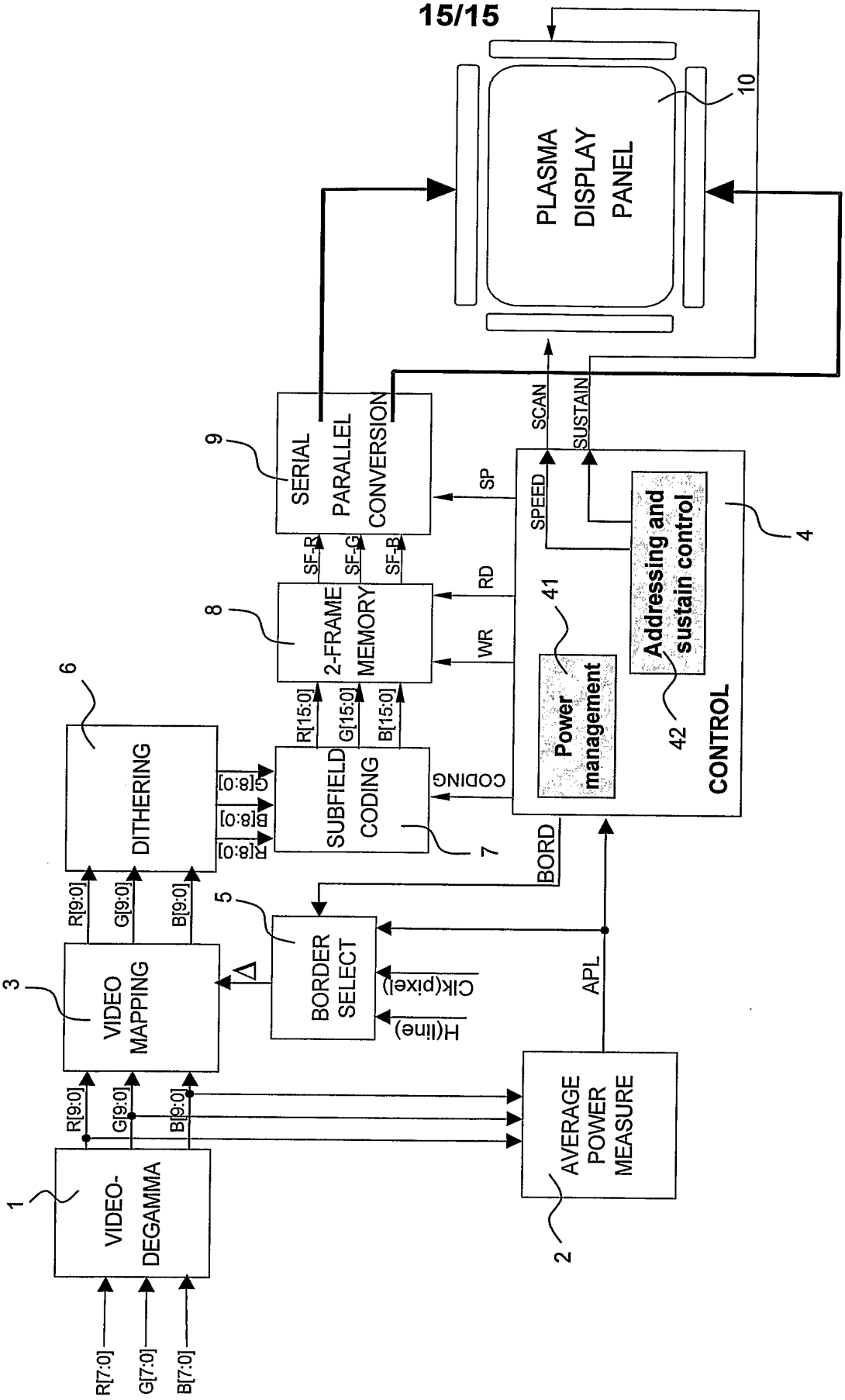
PLASMA DISPLAY PANEL
10
SERIAL PARALLEL CONVERSION
9
2-FRAME MEMORY
8
SUBFIELD CODING
7
DITHERING
6
VIDEO MAPPING
3
BORDER SELECT
5
VIDEO-DEGAMMA
1
AVERAGE POWER MEASURE
2
CONTROL
4
Power management
41
Addressing and sustain control
42
SCAN
SUSTAIN
SPEED
SP
RD
WR
CODING
BORD
APL
SF-R
SF-G
SF-B
R[15:0]
G[15:0]
B[15:0]
R[8:0]
G[8:0]
B[8:0]
R[9:0]
G[9:0]
B[9:0]
Δ
Clk(pixel)
H(line)
R[7:0]
G[7:0]
B[7:0]

Fig. 19